1. DESCRIPTION OF THE PROPOSED ACTION

Seattle Parks and Recreation proposes to repair/replace the fixed pier in North Leschi, replace additional dinghy floats in North Leschi, replace the floats in South Leschi, and repair/replace the fixed piers in Lakewood. The North Leschi fixed pier will be repaired including replacement of the pile caps, stringers, and decking as well as replacement of the timber piling that are severely deteriorated with new steel piling. The North Leschi dinghy floats and deteriorated timber piling will be replaced with partially grated floats and new steel piling. The South Leschi floats and timber piling will be removed completely and replaced with new floats and steel piling. The Lakewood fixed piers will be replaced including steel piles and timber pile caps, stringers, and decking. Out-of-water activities include float fabrication.

The renovation project includes:

- Removal and disposal of 316 creosote-treated timber pilings with an average diameter of 24". These include 36 in North Leschi, 33 in South Leschi, and 247 pilings in Lakewood.
- Installation of 323 steel piling, 16" in diameter. These include 36 in North Leschi, 40 in South Leschi, and 247 pilings in Lakewood.
- Removal and disposal of 13,371 SF dinghy floats in North Leschi.
- Installation of 16,087 SF of new partially grated dinghy floats in North Leschi.
- Repair/Replacement of 14,520 SF of pier superstructure in North Leschi.
- Removal and disposal of the timber gangway in South Leschi.
- Installation of new 6' x 40' ADA-accessible gangway in South Leschi.
- Removal and disposal of 17,941 SF of timber floats in South Leschi.
- Installation of 17,014 SF of new floats in South Leschi.
- Repair/Replacement of 11,755 SF of pier superstructure in Lakewood.

1.1 EXISTING CONDITIONS

Leschi Marina consists of two main basins, the north basin and the south basin. A timber pile and timber lagging bulkhead protects the north basin. The north basin consists of fixed timber piers for moorage. On the north side of the north basin is a series of dingy floats with very low freeboard providing storage and staging areas for small dinghies, kayaks, and other non-motorized craft. The south basin at Leschi consists of floating moorage docks providing space for small to medium recreational vessels. A floating steel pipe type breakwater protects the south basin.

Lakewood Marina consists of a restroom, storage building, Ohler's Island, a parking lot, and a security gate. The marina moorage consists of fixed timber piers with timber piling.

1.2 DESIGN AND CONSTRUCTION DETAILS

For this proposed project, in-water construction includes timber pile removal, the removal of timber floats, installation of steel piling, installation of partially grated dinghy floats, and repair/replacement of the fixed pier superstructure. For the protection of aquatic life, all in-water activities will take place during the approved work window. Other related construction activities that will be performed out of the water may take place at any time. Out-of-water construction activities include float fabrication.

The proposed project consists of the following major in-water construction elements:

- Removal of existing structures, including creosote piling and floats.
- Installation of new steel pipe piling.
- Installation of new timber floats.
- Repair/Replacement of some of the fixed pier superstructure elements.

The following section describes in detail the construction activities.

1.2.1 Removal of Existing Structures

The existing poor condition dinghy floats in North Leschi (Floats B, C, & D), the existing floats in South Leschi, and the fixed pier elements needing replacement / repair in both North Leschi and Lakewood will be removed in sections and loaded directly onto barges for disposal or transferred to shore for further processing and disposal. Demolition debris may be transferred directly to trucks for disposal. If any debris is stockpiled on shore before disposal, it will be placed on liners (e.g., tarps) to contain breakdown debris, such as creosote splinters. Any waste material generated from the demolition of the floats and breakwater will be disposed of in a licensed solid waste landfill.

The site contains approximately 316 creosote-treated timber piling that will be removed during replacement. The 24-inch timber piling at the site will be replaced with approximately 323, 16-inch steel pipe piles. Best Management Practices as identified by the USACE Dredge Management Office (DMMO) will be required during removal of the piling.

Timber piles will be removed in whole, wherever possible, by using a vibratory mechanism. Removal of whole pilings is the preferred method, as it would remove from the environment the creosote preservative adhering to the piling. During removal, if a pile breaks above the mud line, an attempt would be made to pull the remainder of the piling. If the piling breaks below the mud line, the remainder will be left in place and allowed to infill over time by surrounding sediment.

All creosote-treated wood that is removed will be disposed of in accordance with Washington State's Dangerous Waste Regulations (WAC 173-303) and Excluded Categories of Waste (WAC 173-303-071). All waste and debris generated by the project will be collected and removed to a legally permitted waste disposal or recycling site.

1.2.2 Installation of Structures and Piling

Replacement structures to be installed within the sites include new dinghy floats in North Leschi and new floats in South Leschi anchored in place by steel piling. Pier superstructure elements of the fixed piers at both North Leschi and Lakewood requiring repair/replacement will be installed as well. Steel piling will be vibratory-driven in place. Impact hammers may be utilized if driving conditions preclude the use of vibratory hammers. Noise abatement measures such as cushions and bubble curtains will be utilized in the event impact hammer use is required.

The North Leschi dinghy floats will be partially grated. Total surface area of the new dinghy floats will be 16,087 square feet. The South Leschi floats will be 17,014 square feet. The North Leschi and Lakewood fixed pier repair/replacement work will be within the same footprint as the existing piers.

Steel pilings will be installed to design depth using a barge-mounted pile driver with a vibratory hammer. Approximately 323 new steel piles will be installed within the site (16" diameter piling).

Table 1. Net Shaded Water Column Change (SF)

Construction Activity	Baseline Overwater Coverage (SF)	Proposed Overwater Coverage (SF)	Net Overwater Coverage Change (SF)
NORTH LESCHI FLOAT B *	3,897	4,132	235
NORTH LESCHI FLOAT C *	4,661	4,415	-246
NORTH LESCHI FLOAT D *	4,813	4,540	-273
NORTH LESCHI FLOAT F **	N/A	N/A (3000)	N/A
NORTH LESCHI PIER REPAIR / RENOVATION	14,520	14,520	0
NORTH LESCHI PILING	113 (36 CREOSOTE TIMBER 24" DIA.)	50 (36 STEEL 16" DIA.)	-63
SOUTH LESCHI GANGWAY ***	60	104	44
SOUTH LESCHI FLOATS	17,941	17,014	-927
SOUTH LESCHI PILING	104 (33 CREOSOTE TIMBER 24" DIA.)	56 (40 STEEL 16" DIA.)	-48
LAKEWOOD PIER REPAIR / RENOVATION	11,755	11,755	0
LAKEWOOD PILING	776 (247 CREOSOTE TIMBER 24" DIA.)	345 (247 STEEL 16" DIA.)	-431
TOTAL	58,640	56,931	-1,709

* New floats B, C, & D will have a minimum of 6 ft of grated decking (43% open area) so proposed overwater coverage has been reduced accordingly.

** Note that new float F was previously approved and mitigated for under the previous Corps Permit (NWS-2008-307). This float is included in this permit package for information only.

*** The new gangway is fully grated so overwater coverage has been reduced by 50%.

1.2.3 Construction Timing

Project activities, including demolition and construction, are expected to take approximately 6 to 7 months to complete. Project activities, including demolition and construction, for the various major elements of construction activity are listed below with approximate duration. The duration and total period of in-water work will be affected by several factors, including the type of construction equipment and procedures selected by the contractor, and the sequencing of work elements. All in-water work will occur during the approved work window (generally July 16 to February 15), during daylight hours.

Table 2. Approximate Duration of In-water Activities.

Project Element	Approximate Duration
North Leschi	
Remove dinghy floats & timber piles	1 week
Install new steel piles & dinghy floats	2 weeks
Repair/Replace fixed piers	2 weeks
South Leschi	
Remove floats & timber piles	1 week
Install new floats	2 weeks
Install new steel piles	2 weeks
Lakewood	
Remove timber piles	4 weeks
Install new steel piles	8 weeks
Repair/Replace fixed piers	3 weeks